Can Translational Research in Ayurveda Explain the High Mortality in Concomitant Diabetes and Ischemic Heart Disease Patients in the ACCORD Trial?

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Abstract:

The ACCORD trial, a large-scale study conducted by the American College of Physicians and other global research groups, recruited over 14,000 patients and found increased mortality in individuals with both diabetes and ischemic heart disease (IHD) when subjected to intensive glucose-lowering strategies aiming for an HbA1c below 6.5. Despite its significance, this observation remains a gray area in current clinical practice.

Through translational Ayurvedic research using animal models of Vata, Pitta, and Kapha dominance, we previously demonstrated that resting membrane potentials in these groups were approximately -75 mV, -90 mV, and -108 mV, respectively, with a consistent threshold potential of -65 mV across all groups. These differences likely influenced cellular excitability, signaling, and metabolic demands. Notably, Pitta-dominant rats exhibited near-normal action potential patterns but hyperactive mitochondrial function, potentially driving excessive gluconeogenesis via glucagon, incretin, and adiponectin pathways. This metabolic adaptation suggests that forcing glucose levels below their setpoint in such individuals may induce a state of ATP depletion, leading to mitochondrial dysfunction and increased cardiac risk. Our findings provide a novel hypothesis linking Dosha-based metabolic variability to individualized glucose-lowering strategies, potentially explaining the adverse outcomes in the ACCORD trial.